Remarks

The above Amendments and these Remarks are in reply to the non-final Office Action mailed May 23, 2008.

I. Summary of Examiner's Objections and Rejections

Prior to the Office Action mailed on May 23, 2008, Claims 1, 3-12, 16, 17 and 21-26 were pending in the Application. In the Office Action, Claims 1, 12, 16 and 21-26 were rejected under 35 U.S.C. 102(b) as being anticipated by Yeung et al. (article titled "Video Browsing under Clustering and Scene Transitions on Compressed Sequences," referred to as "Yeung" herein). Claims 3-11 were rejected under 35 U.S.C 103(a) as being unpatentable over Yeung in view of Hansen et al. (20020038456, referred to as "Hansen" herein). Additionally, in the office action, claim 17 was withdrawn from consideration as being directed to a non-elected invention.

II. Summary of Applicant's Amendments

The present Reply amends claims 1, 21-25; cancels claims 16-17; and adds new claims 27-32, all as shown above. Applicants respectfully reserve the right to prosecute any originally presented or canceled claims in a continuing or future application.

III. Claim Rejections under 35 U.S.C. §102(b)

In the Office Action, Claims 1, 12, 16 and 21-26 were rejected under 35 U.S.C. 102(b) as being anticipated by Yeung.

Claim 1

Claim 1 has been amended by the current Reply to more clearly define the embodiment therein. As amended, Claim 1 defines:

1.   (Previously Presented) A method for discriminatively selecting keyframes representative of segments of a source digital media, comprising the steps of:
        obtaining said source digital media for which keyframes are to be selected, wherein said source digital media comprises a plurality of segments, wherein said plurality of segments comprises a plurality of frames, said plurality of frames comprising candidate keyframes;
        pre-processing said source digital media to obtain a plurality of feature vectors, said feature vectors being representative of the candidate keyframes;
        determining in-class similarity values for said candidate keyframes, wherein the in-class

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similarity values are determined by comparing the feature vectors for the candidate keyframes to other feature vectors found solely within the same segment the candidate keyframes come from;

determining out-of-class similarity values for said candidate keyframes, wherein the out-of-class similarity values are determined by comparing the feature vectors for the candidate keyframes to other feature vectors found solely outside of the segment the candidate keyframes come from; and

discriminatively selecting a keyframe for each segment based on both the in-class similarity values and the out-of-class similarity values of the candidate keyframes, wherein each selected keyframe is both representative of the segment the selected keyframe originates from and distinguishable from other selected keyframes which are representative of the remaining plurality of segments.

The invention embodied in Claim 1 is not anticipated by, or obvious, in light of Yeung for, among other things, the following reasons. The browsing process disclosed in Yeung includes four main steps: "the identification of video shots, the clustering of video shots of similar visual contents, the presentation of the content and structure to the users via the scene transition graph, and finally the hierarchical organization of the graph structure." Yeung, p. 402. Thus, the focus of Yeung is on clustering similar video *shots* together, as opposed to identifying appropriate *keyframes* to represent those video shots. Within Yeung it is set forth that "for simplicity, only one frame is used to represent the collection of shots." Yeung, p. 409. However, Yeung expressly states that "while we use a representative image to represent a shot in our presentation of the visual results, we do not confine our analysis and clustering to only one such representative image." Yeung, p. 407. Yeung fails to disclose any method of selecting keyframes. Accordingly, Yeung does not anticipate the invention embodied in Claim 1. Moreover, Yeung does not disclose a method of identifying keyframes (or anything else) using in-class and out-of-class similarity values as set forth in Claim 1.

It is therefore respectfully submitted that Claim 1 is not anticipated by, nor obvious in view of the cited references, and reconsideration thereof is respectfully requested.

Claim 22

Claim 22 was rejected as being anticipated by Yeung. Nevertheless, Claim 22 sets forth that the keyframes are selected based on a goodness function value, wherein the goodness function value is calculated based on both the in-class similarity values and the out-of-class similarity values. Yeung does not disclose the use of a goodness function value. Moreover, the "proximity index" in Yeung is not based on both the in-class similarity values and the out-of-class similarity values. It is therefore respectfully submitted that Claim 22 is not anticipated by, nor

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obvious in view of the cited reference, and reconsideration thereof is respectfully requested.

Claim 21

Independent Claim 21 has been amended similar to Claim 1 to more clearly define the embodiment therein and the comments provided for Claim 1 above are incorporated by reference herein. In view of the comments provided above for Claim 1, Applicants' representative respectfully submits that the embodiment defined by Claim 21 is neither anticipated by, nor obvious in view of the cited reference, and reconsideration thereof is respectfully requested.

Claims 23-26

Claims 23-26 are not addressed separately but it is respectfully submitted that those claims are allowable as depending from an allowable independent claims and further in view of the comments provided above. Applicants respectfully submit that those claims are similarly neither anticipated by, nor obvious in view of the cited reference, and reconsideration thereof is respectfully requested. It is also submitted that those claims also add their own limitations which renders them patentable in their own right. Applicants respectfully reserve the right to argue these limitations should it become necessary in the future.

IV. Claim Rejection under 35 U.S.C. §103(a)

Claims 3-11 were rejected under 35 U.S.C 103(a) as being unpatentable over Yeung in view of Hansen. Claims 3-11 are not addressed separately but it is respectfully submitted that those claims are allowable as depending from an allowable independent claim and further in view of the comments provided above. Applicants respectfully submit that those claims are similarly neither anticipated by, nor obvious in view of the cited reference, and reconsideration thereof is respectfully requested. It is also submitted that those claims also add their own limitations which renders them patentable in their own right. Applicants respectfully reserve the right to argue these limitations should it become necessary in the future.

V. Conclusion

In view of the above amendments and remarks, it is respectfully submitted that all of the claims now pending in the subject patent applications should be allowable, and reconsideration

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thereof is respectfully requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of the patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this reply, including any fee for extension of time, which may be required.

Respectfully submitted,

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